

CLAIMS

What is claimed is:

1. A method for recommending a product using an expert system, the method comprising:

- 5 determining problem domain information via interaction with an agent;
determining need information of a user via interaction with the agent;
inputting the user need information into the expert system;
transforming the user need information into a trait, the trait being characteristic of a
product of relevance to the user using the expert system, the product of relevance being selected
10 from a plurality of available products; and
rating a product within the plurality of available products using the expert system.

2. The method of claim 1, wherein an agent determines the need information of the
user and inputs the user need information into the expert system via a graphical user interface
15 serviced by an agent computer.

3. The method of claim 1, further comprising:
summarizing the ratings of the plurality of available products; and
providing explanation of the ratings of the plurality of available products.

4. The method of claim 3, wherein the summary of the ratings of the plurality of
available products comprises at least one of a recommended solution, a compatible solution, and
a not recommended solution.

5. The method of claim 1, wherein the plurality of available products comprises a service.

5 6. The method of claim 1, further comprising communicating the rating from the agent to a customer; and

wherein the rating of the product within the plurality of available products using the expert system is performed in real time.

10 7. The method of claim 1, wherein the expert system employs a fuzzy value in performing rating of the product.

8. The method of claim 1, wherein the expert system employs a crisp value in performing rating of the product.

15 9. An expert system that is operable to facilitate interactive product selection and recommendation, comprising:

an available products/services database;

an expert system that is communicatively coupled to the available products/services database;

20 an agent interface that permits an agent to access the functionality of the expert system; and

the expert system performs processing using an available product within the available products/services database and a customer's need to rate the available product.

10. The expert system of claim 9, further comprising a computer network that is
5 communicatively coupled to the expert system; and

the agent is able to perform remote access of the functionality of the expert system via a graphical user interface that communicatively couples to the computer network.

11. The expert system of claim 9, wherein the expert system is supported locally on a
10 platform that also supports the agent interface.

12. The expert system of claim 9, wherein the expert system performs dynamic calculation to perform the rating of the available product.

13. The expert system of claim 12, wherein the agent interacts with a customer in real
15 time.

14. The expert system of claim 13, wherein the agent communicates information corresponding to the rating of the available product to the customer.

15. The expert system of claim 9, further comprising a computer network
20 communicatively coupled to the available products/services database; and

wherein the available products/services database is updated in real time, via the computer network, with information of products/services that are provided by a plurality of providers.

16. A method for performing interactive product selection and recommendation, the method comprising:

inputting a customer need into an expert system via a graphical user interface;
performing expert system processing considering the customer need in light of a plurality of business specific options; and

generating output that identifies a recommended solution using dynamic calculation within the expert system by employing a fuzzy variable used to characterize the customer need, the recommended product solution being selected from the plurality of available products.

17. The method of claim 16, wherein the plurality of available products comprises telecommunication technologies.

18. The method of claim 17, wherein the telecommunication technologies comprises at least one of Internet access services and data network services.

19. The method of claim 16, wherein the inputting of the customer need into the expert system via the graphical user interface is performed during real time interaction between an agent and the customer.

20. The method of claim 16, wherein the output further comprises a compatible solution.

21. A method for determining at least one data network configuration for servicing a customer, the method comprising:

receiving a customer need into an expert system via a graphical user interface, wherein the customer need includes a plurality of locations to be networked and data communication requirements of each of the plurality of locations and information concerning the data communication requirements of at least one location within the plurality of locations;

performing expert system processing considering the customer need in light of a plurality of business specific options, wherein each of the plurality of business specific options comprises a unique data network configuration among the plurality of locations with unique communication characteristics between the plurality of locations; and

generating output that identifies a recommended solution using dynamic calculation within the expert system by employing a fuzzy variable used to characterize the customer need, the recommended solution being selected from the plurality of business specific options.

22. The method of claim 21, wherein the dynamic calculation within the expert system comprising employing a crisp variable that is used to characterize the customer need.

23. The method of claim 22, wherein the crisp variable comprises a sufficiency of a quality of service.

24. The method of claim 21, wherein the business specific options comprises a plurality of available options that are provided by a plurality of data network service providers at one of the plurality of locations.

5 25. The method of claim 21, wherein the output further comprises a compatible solution.

26. The method of claim 21, wherein the output further comprises an explanation for why the recommended solution was selected.

10 27. The method of claim 21, wherein the customer need comprises an up-front cost and a monthly cost.

15 28. The method of claim 21, wherein a domain expert is able to modify a rule employed by the expert system to perform the dynamic calculation; and the modification is performed by the domain expert via the graphical user interface.

29. The method of claim 21, wherein each of the plurality of business specific options is provided by a provider; and

20 one of the plurality of business specific options is updated in real time for use by the expert system.

Patent No. 05360660

30. A method for determining at least one Internet access configuration for servicing a customer, the method comprising:

receiving a customer need into an expert system via a graphical user interface, wherein the customer need includes a plurality of locations requiring Internet access and information
5 concerning the Internet access needs of at least one location within the plurality of locations;

performing expert system processing considering the customer need in light of a plurality of business specific options, wherein each of the plurality of business specific options comprises an Internet access configuration that ensures Internet access for each of a predetermined number of locations within the plurality of locations; and

10 generating output that identifies a recommended solution using dynamic calculation within the expert system by employing a fuzzy variable used to characterize the customer need, the recommended solution being selected from the plurality of business specific options.

32. The method of claim 31, wherein the dynamic calculation within the expert
15 system comprising employing a crisp variable that is used to characterize the customer need.

33. The method of claim 32, wherein the crisp variable comprises a static Internet protocol address.

20 34. The method of claim 31, wherein the business specific options comprises a plurality of available options that are provided by a plurality of Internet access service providers at one of the plurality of locations.

35. The method of claim 31, wherein the output further comprises a compatible solution.

36. The method of claim 31, wherein the output further comprises an explanation for
5 why the recommended solution was selected.

37. The method of claim 31, wherein the customer need comprises an up-front cost and a monthly cost.

38. The method of claim 31, wherein a domain expert is able to modify a rule
10 employed by the expert system to perform the dynamic calculation; and
the modification is performed by the domain expert via the graphical user interface.

39. The method of claim 31, wherein each of the plurality of business specific options
15 is provided by a provider; and
one of the plurality of business specific options is updated in real time for use by the expert system.

40. The method of claim 30, wherein the predetermined number of locations among
20 the plurality of locations comprises all of the plurality of locations.

41. An expert system that is operable for recommending a product, the expert system comprising:

a computer network;

an agent interface, communicatively coupled to the computer network, comprising a graphical user interface;

5 a product database, communicatively coupled to the computer network, that contains a plurality of available products, the product database being communicatively coupled to a plurality of providers of the plurality of available products thereby allowing updating of the product database in real time; and

10 an expert system, communicatively coupled to the computer network, that is operable to rate at least two available products within the plurality of available products using dynamic calculation and based on a customer need;

15 wherein an agent and a customer interact in real time whereby the customer communicates a customer need to the agent and the agent accesses the functionality of the expert system, via the graphical user interface, to perform selection of an available product from the product database based on the rating of the at least two available products during the customer-client interaction;

20 the expert system generates output comprising a recommended solution and a compatible solution and presents the output to the agent via the graphical user interface, each of the recommended solution and a compatible solution being selected from the plurality of available products within the product database, the recommended solution having a rating that is higher than the rating of the compatible solution; and

the agent communicates the recommended solution and the compatible solution to the customer in real time after the expert system generates the output.

42. The expert system of claim 41, wherein at least one of the recommended solution and the compatible solution comprises at least one of a data network solution and an Internet access solution.

5 43. The expert system of claim 41, wherein the output further comprises an explanation for why the recommended solution was selected by the expert system.

44. The expert system of claim 41, wherein the expert system employs at least one of a dedicated Internet access guidance engine and a data network guidance engine to rate the at least two available products within the plurality of available products.

45. The expert system of claim 41, wherein agent receives information concerning at least one of the available products within the plurality of available products to the agent via the graphical user interface.

46. A plurality of software instructions stored on a media that, upon execution by a processing circuitry, are operable to recommend a product by using an expert system, comprising:

a set of instructions executed by the processing circuitry that determines problem domain information during interaction with an agent;

a set of instructions executed by the processing circuitry that determines need information of a user during interaction with the agent;

a set of instructions executed by the processing circuitry that inputs the user need information into the expert system;

a set of instructions executed by the processing circuitry that transforms the user need information into a trait, the trait being characteristic of a product of relevance to the user as
5 determined using expert system processing that is performed by the expert system, the product of relevance being selected from a plurality of available products; and

a set of instructions executed by the processing circuitry that rates a product within the plurality of available products using the expert system.

10 47. A plurality of software instructions stored on a media that, upon execution by a processing circuitry, are operable to facilitate interactive product selection and recommendation, comprising:

a set of instructions executed by the processing circuitry that supports an agent interface that permits an agent to access functionality of an expert system; and

15 a set of instructions executed by the processing circuitry that directs the expert system to perform expert system processing using an available product within an available products/services database and a customer's need to rate the available product.

20 48. A plurality of software instructions stored on a media that, upon execution by a processing circuitry, are operable to perform interactive product selection and recommendation, comprising:

a set of instructions executed by the processing circuitry that inputs a customer need into an expert system via a graphical user interface;

a set of instructions executed by the processing circuitry that directs an expert system to perform expert system processing considering the customer need in light of a plurality of business specific options; and

a set of instructions executed by the processing circuitry that generates output that
5 identifies a recommended solution using dynamic calculation during the expert system processing by employing a fuzzy variable used to characterize the customer need, the recommended product solution being selected from the plurality of available products.

49. A plurality of software instructions stored on a media that, upon execution by a
10 processing circuitry, are operable to determine at least one data network configuration for servicing a customer, the method comprising:

a set of instructions executed by the processing circuitry that receives a customer need
into an expert system via a graphical user interface, wherein the customer need includes a
plurality of locations to be networked and data communication requirements of each of the
15 plurality of locations and information concerning the data communication requirements of at least one location within the plurality of locations;

a set of instructions executed by the processing circuitry that directs the expert system to perform expert system processing considering the customer need in light of a plurality of business specific options, wherein each of the plurality of business specific options comprises a
20 unique data network configuration among the plurality of locations with unique communication characteristics between the plurality of locations; and

a set of instructions executed by the processing circuitry that generates output that identifies a recommended solution using dynamic calculation during expert system processing by

employing a fuzzy variable used to characterize the customer need, the recommended solution being selected from the plurality of business specific options.

50. A plurality of software instructions stored on a media that, upon execution by a processing circuitry, are operable to determine at least one Internet access configuration for servicing a customer, comprising:

a set of instructions executed by the processing circuitry that receives a customer need into an expert system via a graphical user interface, wherein the customer need includes a plurality of locations requiring Internet access and information concerning the Internet access needs of at least one location within the plurality of locations;

a set of instructions executed by the processing circuitry that directs an expert system to perform expert system processing considering the customer need in light of a plurality of business specific options, wherein each of the plurality of business specific options comprises an Internet access configuration that ensures Internet access for each of a predetermined number of locations within the plurality of locations; and

a set of instructions executed by the processing circuitry that generates output that identifies a recommended solution using dynamic calculation within the expert system by employing a fuzzy variable used to characterize the customer need, the recommended solution being selected from the plurality of business specific options.

51. A plurality of software instructions stored on a media that, upon execution by a processing circuitry, are operable to recommend a product, comprising:

a set of instructions executed by the processing circuitry that performs expert system processing to rate at least two available products within a plurality of available products using dynamic calculation and based on a customer need;

5 a set of instructions executed by the processing circuitry that enable an agent and a customer to interact in real time whereby the customer communicates a customer need to the agent and the agent accesses the functionality of the expert system processing, via the graphical user interface, to perform selection of an available product from the product database based on the rating of the at least two available products during the customer-client interaction;

10 a set of instructions executed by the processing circuitry that generates output comprising a recommended solution and a compatible solution and presents the output to the agent via the graphical user interface, each of the recommended solution and a compatible solution being selected from the plurality of available products within the product database, the recommended solution having a rating that is higher than the rating of the compatible solution; and

15 a set of instructions executed by the processing circuitry that prompts the agent to communicate the recommended solution and the compatible solution to the customer in real time after the expert system processing generates the output.

52. An expert system that is operable to facilitate interactive product selection and recommendation, comprising:

20 an available products/services database;

an expert system that is communicatively coupled to the available products/services database; and

an agent interface that permits an agent to access the functionality of the expert system;
and

wherein the expert system performs processing using an available product within the
available products/services database and a customer's need to rate the available product; and

5 the expert system generates output comprising an explanation for why the recommended
solution was selected by the expert system.

53. The expert system of the claim 52, wherein the explanation comprises a plurality
of reasons that indicate why the recommended solution was selected by the expert system.

10 54. The expert system of the claim 53, wherein the plurality of reasons and the
recommended solution are provided simultaneously to the agent interface.

15 55. The expert system of the claim 53, wherein the agent interface comprises a link;
and
the agent selects the link, within the agent interface, to display the plurality of reasons on
the agent interface.

20 56. A method for performing interactive product selection and recommendation, the
method comprising:

inputting a customer need into an expert system via a graphical user interface;
performing expert system processing considering the customer need in light of a plurality
of business specific options; and

generating output that identifies a recommended solution using dynamic calculation within the expert system by employing a fuzzy variable used to characterize the customer need, the recommended product solution being selected from the plurality of available products; and wherein the output comprises an explanation for why the recommended solution was selected by the expert system.

57. The method the claim 56, wherein the explanation comprises a plurality of reasons that indicate why the recommended solution was selected by the expert system.

58. The method the claim 57, further comprising simultaneously providing the plurality of reasons and the recommended solution to the graphical user interface.

59. The method the claim 57, wherein the graphical user interface comprises a link; further comprising selecting the link, within the graphical user interface; and the selection of the link displays the plurality of reasons on the graphical user interface.

60. A method for determining a plurality of inputs for use in an expert system, comprising:

asking a first plurality of questions to determine a problem domain;

asking a second plurality of questions to determine a user need;

transforming the user need information into a trait, the trait being characteristic of a product of relevance to the user using the expert system, the product of relevance being selected from a plurality of available products based on the problem domain; and

rating a product within the plurality of available products using the expert system.

61. The method of claim 60, wherein the problem domain is determined via interaction between an agent and a customer; and

5 the user need is determined via interaction between the agent and the customer.

62. The method of claim 61, wherein the interaction between the agent and the customer is performed in real time.

10 63. The method of claim 60, further comprising presenting the first plurality of questions and the second plurality of questions to a customer via a graphical user interface;

the problem domain is determined when the user provides an answer to at least one question within the first plurality of questions using the graphical user interface and when the customer provides an answer to at least one question within the second plurality of questions
15 using the graphical user interface.

64. The method of claim 60, wherein the problem domain comprises at least one of a data network problem domain and an Internet access problem domain.

20 65. The method of claim 64, wherein at least one of the first plurality of questions and the second plurality of questions comprises at least one of a question concerning bandwidth and a question concerning availability.